ARTcessories™

SPLITComPro

Microphone Splitter / Combiner

Use the SPLITCom Pro to Split or Combine balanced low impedance microphone signals.

AS A SPLITTER: The SPLITCom Pro provides one direct-coupled output and one isolated output from a single microphone. Applications include sending the direct output to the main or FOH mixer, and the second isolated output being sent to a monitor or recording mixer. The MAIN MIC OUTPUT passes phantom power from the main mixer to the MAIN MIC INPUT for use with condenser microphones. Phantom power is blocked from passing to the ISOLATED MIC OUTPUT.

AS A COMBINER: The SPLITCom Pro provides one output from two microphone inputs. The PHASE switch can be used to invert the relative phase of the ISOLATED MIC INPUT. Applications include dual micing of percussion instruments, choirs, and instrument amplifiers. Phantom power passes through each output to their respective input, (MAIN to MAIN, ISOLATED to ISOLATED), however phantom power is blocked from passing between the MAIN and ISOLATED signal paths. Only the audio passes between the MAIN and ISOLATED signal paths (it is present on all inputs and outputs).

The SPLITCom Pro includes a GROUND switch which when in the LIFT position will provide full galvanic isolation between the MAIN MIC INPUT (& OUTPUT) and the ISOLATED MIC INPUT (& OUTPUT) to reduce noise due to ground loops between connected equipment.

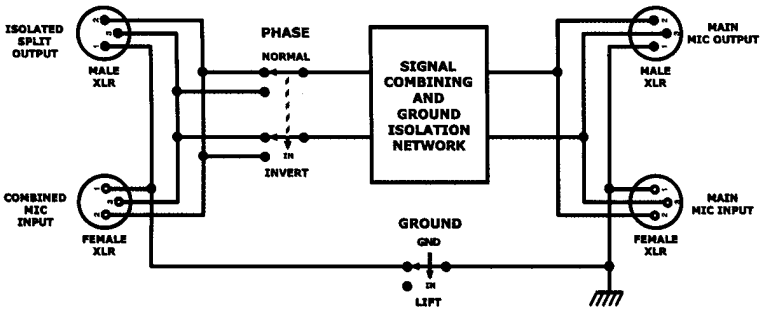
Features:

- *Low Distortion – Wide Frequency Response*
- *Two Functions In One Box – Combine And/Or Split*
- *Phase Invert Switch For Subtractive Combining*
- *Galvanic Isolation To Block Phantom-Power Between Channels and break ground loops together with the Ground Lift Switch*
- *Ground Lift Switch To Reduce Noise Due To Ground Loops*

Specifications:

NOTE: All measurements made from ISOLATED MIC OUTPUT with PHASE switch out (NORM) and 150 Ohm balanced source feeding MAIN MIC INPUT and 1K Ohm load connected to ISOLATED MIC OUTPUT to simulate a typical "real world" microphone and mic preamplifier. 0 dBu = 0.775 VRMS.

FREQUENCY RESPONSE:	20 Hz to 150K Hz, ±0.2 dB @ 0 dBu
TOTAL HARMONIC DISTORTION:	Less than 0.0007% from 20 Hz to 20K Hz at 0 dBu input
PHASE RESPONSE:	Less than 10 degrees at 20 to 150K Hz (ref. 1K Hz)
TYPICAL DRIVING SOURCE IMPEDANCE:	150 Ohms
TYPICAL OUTPUT LOAD IMPEDANCE:	1K Ohms



To see the entire ARTcessories line of solution boxes, visit: www.artproaudio.com
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APPLIED RESEARCH AND TECHNOLOGY

ARTcessories

SPLITComPro

Microphone Splitter / Combiner

USAGE:

AS A SPLITTER

Connect low impedance dynamic or condenser microphone to MAIN MIC INPUT on the SPLITCom Pro.

Connect MAIN MIC OUTPUT to mic input on main mixer (switch phantom power on at mixer if desired).

Connect ISOLATED MIC OUTPUT to mic input on secondary mixer or recording system.

Set PHASE switch to the out position (NORM).

Set GROUND switch to (LIFT) or (GND). Use whichever setting provides lowest noise performance.

NOTE: (For Splitting Applications) The PHASE switch can be used to invert the ISOLATED MIC OUTPUT as the ISOLATED MIC INPUT and ISOLATED MIC OUTPUT are hardwired together. Typically the PHASE switch should be left in the (NORM) position when the SPLITCom Pro is used as a splitter, however the ISOLATED MIC OUTPUT can be inverted if so desired.

AS A COMBINER

Connect low impedance dynamic or condenser microphone to MAIN MIC INPUT on the SPLITCom Pro.
Connect a second low impedance dynamic or condenser microphone to ISOLATED MIC INPUT on the SPLITCom Pro.
Connect MAIN MIC OUTPUT to mic input on mixer or recording system.

Set PHASE switch to the (NORM) or (INVERT) to achieve the desired sound.

Set GROUND switch to (LIFT) or (GND). Use whichever setting provides lowest noise performance.

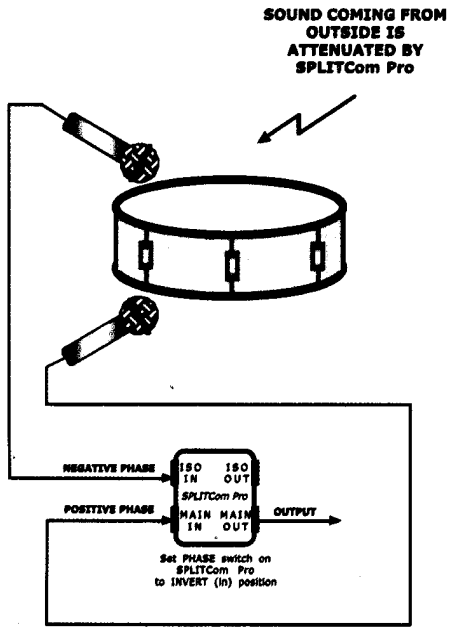
NOTE: (For Combining Applications) While there is no strict rule about which microphones can be combined, in general the best performance can be had by combining the same model of microphone. The microphones need not be a factory matched pair, although that can also be desirable for some micing applications. When using the same model microphones in the combining mode, both microphones will exhibit the same overall sensitivity, and insertion loss through the SPLITCom Pro will be uniform for each microphone. Typical insertion loss can be as high as 10dB. It is also favorable to place the microphones within the same basic sound field such as when micing percussion instruments, instrument amplifiers, or a choir.

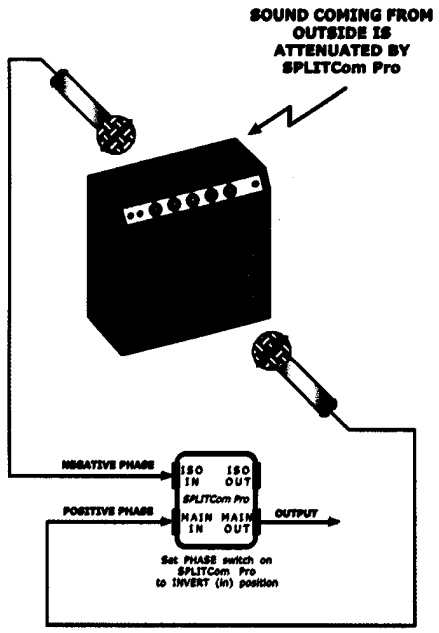
EXAMPLES OF SUBTRACTIVE MIC COMBINING

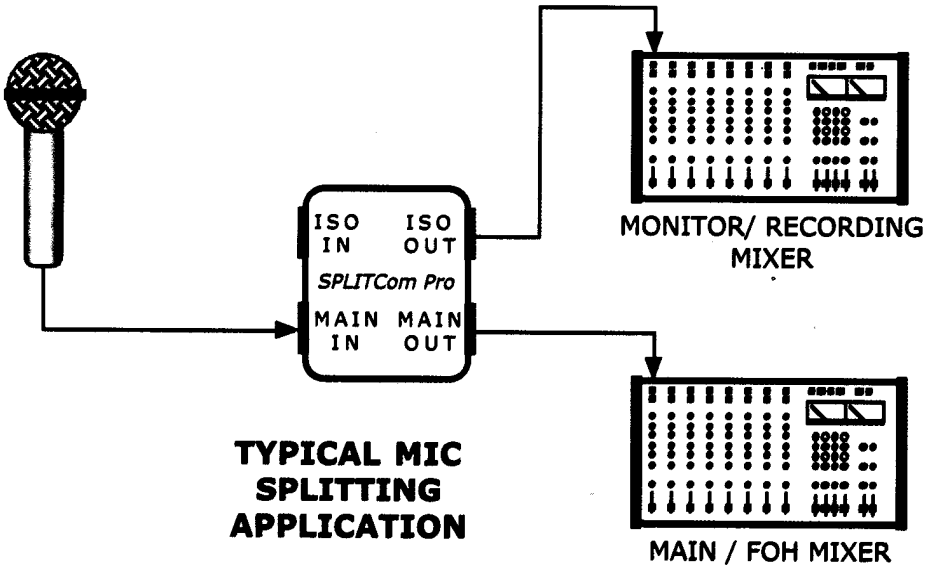
By using two identical microphones placed on the top & bottom of a snare drum, or the front & rear of an open back instrument amplifier, each microphone will pick up roughly the same sound, but each signal will be 180 degrees out of phase with each other (as the drum-skin or speaker moves back and forth). Use the PHASE switch on the SPLITCom Pro to invert the signal from one of the microphones before combining. This way the signals will add together properly in phase.

Background sound coming from far away will be picked up by each microphone equally and will therefore be in phase. The phase inversion at the SPLITCom Pro will then subtract these two common signals resulting in attenuation of the background sound. Through careful microphone placement, the sound of the instrument can be enhanced, while background sound (leakage) can be reduced. In live sound applications this can result in higher gain before feedback, and in recording applications it can result in reduced leakage between tracks.

EXAMPLES OF SUBTRACTIVE MIC COMBINING



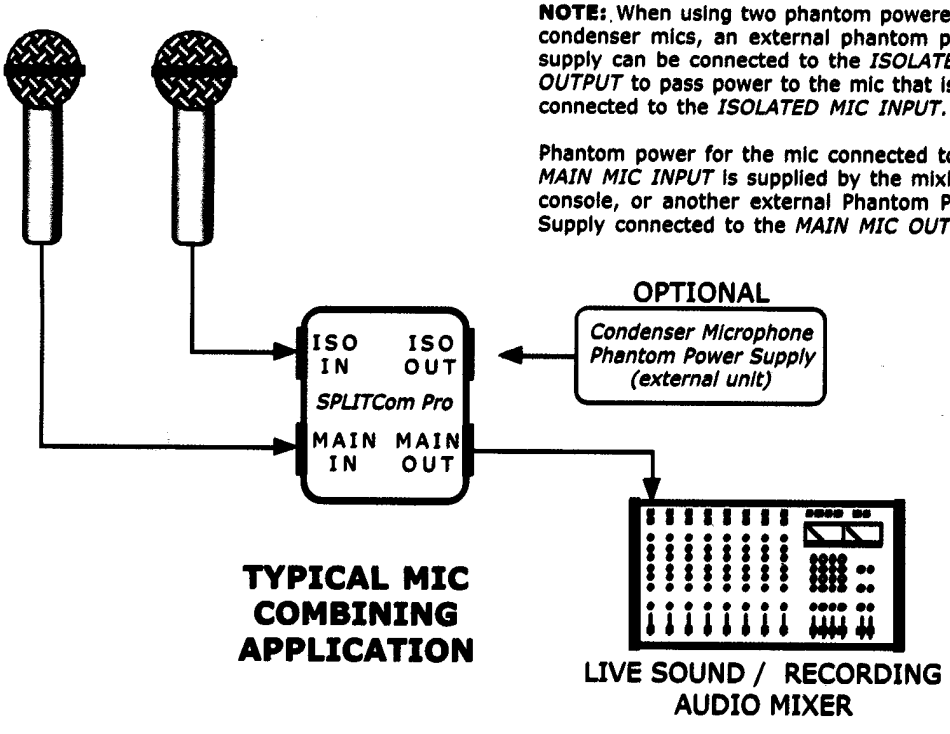




TYPICAL MIC SPLITTING APPLICATION

NOTE: When using two phantom powered condenser mics, an external phantom power supply can be connected to the *ISOLATED MIC OUTPUT* to pass power to the mic that is connected to the *ISOLATED MIC INPUT.*

Phantom power for the mic connected to the *MAIN MIC INPUT* is supplied by the mixing console, or another external Phantom Power Supply connected to the *MAIN MIC OUTPUT.*



TYPICAL MIC COMBINING APPLICATION